

## Individual Student Plan/Timeline

Student Name: \_\_\_\_\_

Date Created: \_\_\_\_\_

School: \_\_\_\_\_

School District: \_\_\_\_\_

Grade: \_\_\_\_\_

Subject: (One ISP per subject area) : **Chemistry**

Pre assessment scores: \_\_\_\_\_

Assessment Tool: \_\_\_\_\_

WRAT4

Tentative Schedule Date	Specific Learning Objective	GPS Link (# code)
	<p><b>Students will analyze the nature of matter and its classifications.</b></p> <p>a. Relate the role of nuclear fusion in producing essentially all elements heavier than helium. b. Identify substances based on chemical and physical properties. c. Predict formulas for stable ionic compounds (binary and tertiary) based on balance of charges. d. Use IUPAC nomenclature for both chemical names and formulas: Ionic compounds (Binary and tertiary) ; Covalent compounds (Binary and tertiary) ; and • Acidic compounds (Binary and tertiary).</p>	SC1a-d
	<p><b>Students will relate how the Law of Conservation of Matter is used to determine chemical composition in compounds and chemical reactions.</b></p> <p>a. Identify and balance the following types of chemical equations: • Synthesis • Decomposition • Single Replacement • Double Replacement • Combustion ; b. Experimentally determine indicators of a chemical reaction specifically precipitation, gas evolution, water production, and changes in energy to the system. c. Apply concepts of the mole and Avogadro's number to conceptualize and calculate • Empirical/molecular formulas, • Mass, moles and molecules relationships, • Molar volumes of gases. ; d. Identify and solve different types of stoichiometry problems, specifically relating mass to moles and mass to mass. e. Demonstrate the conceptual principle of limiting reactants. f. Explain the role of equilibrium in chemical reactions.</p>	SC2a-f
	<p><b>Students will use the modern atomic theory to explain the characteristics of atoms.</b></p> <p>a. Discriminate between the relative size, charge, and position of protons, neutrons, and electrons in the atom. b. Use the orbital configuration of neutral atoms to explain its effect on the atom's chemical properties. c. Explain the relationship of the proton number to the element's identity. d. Explain the relationship of isotopes to the relative abundance of atoms of a particular element. e. Compare and contrast types of chemical bonds (ie. ionic, covalent). f. Relate light emission and the movement of electrons to element identification.</p>	SC3a-f
	<p><b>Students will use the organization of the Periodic Table to predict properties of elements.</b></p> <p>a. Use the Periodic Table to predict periodic trends including atomic radii, ionic radii, ionization energy, and electro negativity of various elements. b. Compare and contrast trends in the chemical and physical properties of elements and their placement on the Periodic Table.</p>	SC4a-b
	<p><b>Students will understand that the rate at which a chemical reaction occurs can be affected by changing concentration, temperature, or pressure and the addition of a catalyst.</b></p> <p>a. Demonstrate the effects of changing concentration, temperature, and pressure on chemical reactions. b. Investigate the effects of a catalyst on chemical reactions and apply it to everyday examples. c. Explain the role of activation energy and degree of randomness in chemical reactions.</p>	SC5a-c
	<p><b>Students will understand the effects motion of atoms and molecules in chemical and physical processes.</b></p> <p>a. Compare and contrast atomic/molecular motion in solids, liquids, gases, and plasmas. b. Collect data and calculate the amount of heat given off or taken in by chemical or physical processes. c. Analyzing (both conceptually and quantitatively) flow of energy during change of state (phase).</p>	SC6a-c
	<p><b>Students will characterize the properties that describe solutions and the nature of acids and bases.</b></p> <p>a. Explain the process of dissolving in terms of solute/solvent interactions: • Observe factors that affect the rate at which a solute dissolves in a specific solvent, • Express concentrations as molarities, • Prepare and properly label solutions of specified molar concentration, • Relate molality to colligative properties. b. Compare, contrast, and evaluate the nature of acids and bases: • Arrhenius, Bronsted-Lowry Acid/Bases • Strong vs. weak acids/bases in terms of percent dissociation • Hydronium ion concentration • pH • Acid-Base neutralization</p>	SC7a-b

Parent/Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_